# ENGINEERING

## Department Purpose and Description

The primary purpose of the Engineering Department is to provide competent technical advice and professional services to the City Council regarding existing and planned infrastructure. The Engineering Department's professional purpose is to ensure that all infrastructure facilities planned and built within the City meet engineering standards and conform to State laws and the Municipal Code. The Engineering Department plans, secures financing, and manages the performance of basic amenities such as City streets, pavement, traffic signals, streetlights and the City's extensive storm water and wastewater systems. The Development Services Division provides an array of direct services to the public including the final entitlements of development projects, technical oversight of privately constructed facilities and infrastructure, and the creation of financing systems for infrastructure construction and long-term maintenance. Through its Traffic Division, the department continually plans, monitors, and manages existing and projected traffic conditions throughout the City. Through its Infrastructure division, the department identifies current and future deficiencies in the City's pavement, storm drain and wastewater disposal systems, and streets. The Engineering Department also provides fiscal management of the City's development impact fee program, community facilities districts, and special assessment district programs.

In order to meet the demands of growth and continued development activity, the department currently has a staff of 51 permanent full time equivalent positions. During fiscal year 2005, the Engineering Department was reorganized into the following sections:

- Administrative Services
- Fiscal Services: Manages Community Facilities Districts, Open Space Districts, Development Impacts Fees, and infrastructure financing.
- Development Services: The Land Development Division provides an array of direct services to the public including the final entitlements of development projects, technical oversight of privately constructed facilities and infrastructure, and the creation of financing systems for infrastructure construction and long-term maintenance. The proposed reorganization structure includes the assignment of staff and resources capable of implementing change in Western Chula Vista, within the context of the proposed Chula Vista Redevelopment Corporation.
- Transportation Services: Provides traffic management services to the traveling public, so they can enjoy a safe and efficient transportation system; assesses neighborhood traffic concerns; implements corrective measures to enhance vehicle, bicycle, and pedestrian safety; provides for the management, operation, preventive maintenance, and repair of City-owned street lights and traffic signal equipment.
- Infrastructure Services: Performs infrastructure planning studies; provides technical support for regional Transportation issues through SANDAG and regional Wastewater issues through Metro; inventories and manages a wide array of the City's infrastructure; Provides customers support and answers citizen's requests for services.

## Major Accomplishments for Fiscal Year 2005

During Fiscal Year 2005, The Engineering Department awarded and delivered three major interchange improvements on I-805, with project costs totaling $33 million. These improvements constituted the largest expenditure of local funding on freeway interchanges in the San Diego region during 2004/2005.

The Engineering Department represented the City's interest during the final design stages of SR-125. Engineering staff has been working closely with CTV and CALTRANS to ensure the timely completion of SR-125, while preserving the City's infrastructure within this vital transportation corridor.

The Department oversaw the formation of 4 new community facilities districts (CFDs) in the Eastern territories during Fiscal Year 2005. These districts enable the development community and the City to provide timely and critical infrastructure and well-maintained common areas to residents. Engineering manages the formation, auditing, and administration of the City's CFDs, including monitoring and annual updates. The annual budget of CFDs, Assessment Districts, and Open Space Districts under Engineering's purview is in excess of $24 million.

Engineering also manages the City's Development Impact Fee (DIF) program including the Transportation DIF. Program management includes standardization of the annual review and update process, the creation of new DIFs, and the management of related payment and credit tracking systems.

During Fiscal Year 2005, Engineering oversaw the completion of the final mapping and legal entitlements for 1,560 housing units, including securing the construction of $22 million of public improvements related to various development activities. The department was successful in completing the entitlement of the Crossings Commercial Center on Main Street, The Auto Park expansion on Main Street, High School #13 grading and related infrastructure, and the freeway Commercial shopping center.

Several other major roadways were completed and opened to the public during Fiscal Year 2005 including La Media Road south of Olympic Parkway, Eastlake Parkway north and south of Olympic Parkway, Proctor Valley Road East of Duncan Ranch, and Hunte Parkway south of Olympic Parkway.

Several traffic projects were completed in fiscal year 2005 and are now relieving congestion for the City's morning and evening commuters. In particular, fourteen (14) traffic signals modifications, traffic operations, and safety related projects were awarded and delivered. Also, during Fiscal Year 2005, the backbone of a fiber optics network on Fourth Avenue and H Street was completed, creating the highest quality communication network to serve Chula Vista well into the future.

In addition, Fiscal Year 2005 saw the completion of a major update to the Salt Creek Sewer Development Impact Fee. The update has established an important financing vehicle to fund the construction of the largest sewer distribution system in the City's history, ensured adequate financing for subsequent phases and reimbursing the City's previous financial commitments.

With respect to the General Plan Update, the Engineering Department was instrumental in completing major technical studies needed for the General Plan Update. These studies included Transportation studies for the GPU-EIR, Urban Mobility studies, Master Wastewater distribution system, and the City's Storm Drain system.

During Fiscal Years 2004 and 2005, the Engineering department completed two sewer rate studies to ensure that wastewater charges are collected in the most equitable manner from residents and ratepayers.

Substantial staff efforts have been expended to ensure that regional funding for infrastructure is adequately allocated to Chula Vista and the South County. Due to its regional nature, this extremely vital work takes time to deliver measurable results. However, during Fiscal Year 2005, Engineering staff was successful in establishing the case for early freeway improvements on I-805 culminated in SANDAG & CALTRANS inclusion of I-805 widening north of Telegraph Canyon Road into the Early Action list for advance funding by TRANSNET.

## Major Goals and Challenges for Fiscal Years 2006 and 2007

Fiscal Years 2006 & 2007 will find Chula Vista with greatly improved traffic circulation on both our regional and internal roadways. The completion of SR-125 will immediately add additional north-south mobility for Chula Vista's residents and visitors, easing congestion on I-5 and I-805. In addition, I-805 access at four (4) interchanges throughout the City will be substantially improved as a result of enhancement projects nearing completion in 2005. With the new SR-125 and improvements along I-805, traffic patterns on the City's arterials will be shifting, requiring quick and responsive adaptation in the operation and management of traffic signals. The challenge for staff will be to manage traffic operations proactively, thereby reducing delays and ensuring efficiencies. This goal will require frequent updates to the timing plans of the City's signals, and will be balanced with the upcoming preventive maintenance program for traffic signals and streetlights.

As the City continues to grow to its full General Plan potential, acquisition of additional sewer capacity rights in the Metro Sewer System will be necessary. The City's rights in the Metro system presently total 21 MGDs (Million Gallons per Day). At currently projected development rates, staff anticipates this capacity seeing the City through approximately 2008. In order for the City to meet the needs associated with the City's full build-out potential, acquisition of an additional 5 MGD of capacity will be necessary, for a total capacity of 26 MGDs. Acquiring such rights may cost the City up to $95 Million, in 2005 prices. During Fiscal Years 2006 and 2007, engineering staff will assume a leading role in ensuring that such acquisition is conducted in the most cost effective manner, both maximizing the financial benefits to the City and minimizing future acquisition risks. Staff will explore every possible option to acquire adequate capacity rights in the Metro system and will conduct a cost/benefit /risk analysis of every option.

Development growth patterns during Fiscal Years 2006 & 2007 will directly influence the delivery of engineering services. A severe slow down will impact our ability to finance planned infrastructure, both in eastern and western Chula Vista. Vital projects are planned for entitlement or construction during the next two years. These include the Bay Front project, the Eastern Urban Center, the freeway commercial shopping center, and the Urban Core's

redevelopment efforts. In addition, Engineering staff will manage the entitlement and financing of Rock Mountain Road, the last major west/east arterial in Chula Vista, connecting Main Street to SR-125.

Infrastructure will continue to be the primary focus of the engineering work program for FY 2005 and 2006. Engineering will complete a thorough analysis of our infrastructure deficiencies with the goal of creating GIS-centered databases. Currently, simple questions by our policy makers and/or ordinary citizens regarding the nature or status of our infrastructure can't be readily answered without substantial research. This is partially due to the fact that our information is outdated and fragmented into various spreadsheets, specialized software, or within "old-fashioned" printed reports. Our ultimate goal is to create deficiency lists promptly accessible via our GIS system and continuously updated by an internal process. These lists will include items such as missing improvements or sidewalks, pavement conditions and deficient utilities. Such a process will form the backbone of our long and medium-range planning as a front-end to our CIP formulation process, by establishing a broader prioritization hierarchy.

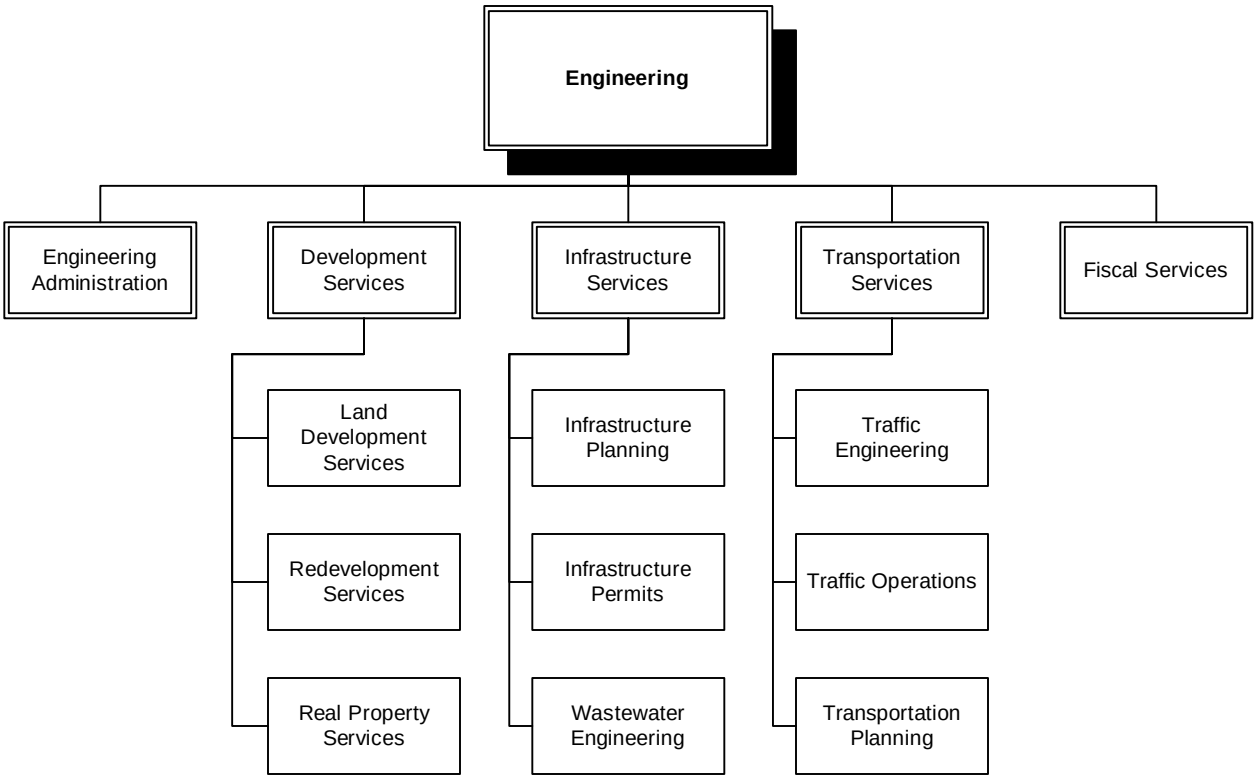
The delivery of timely infrastructure requires early planning and prudent financing. During FY 2006 and 2007, the Engineering Department will be actively managing our Development Impact Fees program, including comprehensive updates. The Engineering Department is already participating in developing the Public Facilities Financing Plan for the City's Urban Core. The subject study requires a subsequent nexus study to better define the fair share participation of new developments in upgrading our infrastructure in western Chula Vista. The recent approval of Proposition A will generate up to $300 million of transportation revenues to the City over the 40-year life of the measure. Traditionally, programming of TransNet expenditures are identified through the Regional Transportation Improvement Program process and approved by Council during the CIP process. Engineering will be recommending a different approach to develop the medium and long-range plan of TransNet expenditures in coordination with the Urban Core Plan. The proposed approach will better integrate the identification of deficiencies and maintenance needs, especially in western Chula Vista, with the long-range financing of these deficiencies (such as through development impact fees).

Traffic safety remains one of the primary functions of the Engineering Department. During Fiscal Years 2006 and 2007, staff will be working in coordination with the Police Department to improve traffic safety in Chula Vista, with a renewed emphasis on the three "E"s of traffic safety: Education, Engineering, and Enforcement. Achieving measurable improvements in traffic safety is an important strategic goal for both the Police & Engineering Departments. This strategic goal requires, first and foremost, an extensive public outreach and educational program coupled with a comprehensive and cohesive traffic management and enforcement tools.

Finally, a constant challenge will always be to provide the highest level of service to the City and its various departments; as well and most importantly, its residents and businesses. By providing efficient, safe and cost effective infrastructure – roads, sewers, storm drains, sidewalks and new subdivisions – the Engineering Department always has significant challenges to meet.

# ENGINEERING

## ORGANIZATION CHART



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## EXPENDITURES

| | FY 2004 ACTUAL | FY 2005 AMENDED | FY 2006 ADOPTED | FY 2007 ADOPTED |
|---|---|---|---|---|
| Personnel Services | 8,302,914 | 0 | 5,632,316 | 5,790,782 |
| Supplies and Services | 1,886,824 | 0 | 1,905,205 | 1,905,205 |
| Other Expenses | 64,386 | 0 | 95,000 | 95,000 |
| ***EXPENDITURE TOTALS*** | **$10,254,124** | **$0** | **$7,632,521** | **$7,790,987** |

### Expenditures by Division

| DIVISION | FY 2004 ACTUAL | FY 2005 AMENDED | FY 2006 ADOPTED | FY 2007 ADOPTED |
|---|---|---|---|---|
| ***EXPENDITURE TOTALS*** | **$10,254,124** | **$0** | **$7,632,521** | **$7,790,987** |

## REVENUES

| | FY 2004 ACTUAL | FY 2005 PROJECTED | FY 2006 ESTIMATED | FY 2007 ESTIMATED |
|---|---|---|---|---|
| Licenses and Permits | 527,171 | 0 | 423,724 | 423,724 |
| Charges for Services | 4,438,619 | 0 | 3,703,253 | 3,703,253 |
| Other Revenue | 4,057,720 | 0 | 1,976,087 | 1,970,265 |
| Transfers In | 1,675,258 | 0 | 1,783,790 | 1,505,356 |
| ***REVENUE TOTALS*** | **$10,698,768** | **$0** | **$7,886,854** | **$7,602,598** |

# ENGINEERING DEPARTMENT

## AUTHORIZED POSITIONS

| | FY 2001 | FY 2002 | FY 2003 | FY 2004 | FY2005* | FY2006 | FY2007 |
|---|---|---|---|---|---|---|---|
| Director of Engineering | 0 | 0 | 1 | 1 | 0 | 1 | 1 |
| Deputy Director of Engineering | 0 | 0 | 3 | 3 | 0 | 1 | 1 |
| Administrative Analyst II | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| Administrative Secretary | 2 | 0 | 0 | 0 | 0 | 1 | 1 |
| Administrative Services Manager | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| Assistant Engineer I/II | 19 | 19 | 19 | 19 | 0 | 12 | 12 |
| Assistant Surveyor I/II | 2 | 2 | 2 | 2 | 0 | 1 | 1 |
| Assistant Transit Coordinator | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| Building Projects Coordinator | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| Building Projects Manager | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Building Projects Supervisor | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| Civil Engineer | 11 | 12 | 11 | 12 | 0 | 6 | 6 |
| Deputy Director Public Works/City Engineer | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| Development Services Technician | 1 | 2 | 2 | 2 | 0 | 2 | 2 |
| Director of Public Works | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| Engineering Aide | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| Engineering Technician I/II | 11 | 11 | 10 | 10 | 0 | 5 | 5 |
| Engineering Technician III | 2 | 2 | 1 | 1 | 0 | 0 | 0 |
| Fiscal Office Specialist | 0 | 1 | 1 | 1 | 0 | 1 | 1 |
| Land Surveyor | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| Maintenance Worker I/II | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| Office Specialist | 0 | 2 | 1 | 1 | 0 | 1 | 1 |
| Principal Management Analyst | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Public Works Inspector I/II | 9 | 9 | 9 | 9 | 0 | 0 | 0 |
| Real Property Manager | 0 | 0 | 1 | 1 | 0 | 1 | 1 |
| Secretary | 0 | 1 | 1 | 1 | 0 | 1 | 1 |
| Senior Administrative Secretary | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| Senior Building Projects Manager | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| Senior Civil Engineer | 6 | 5 | 2 | 1 | 0 | 3 | 3 |
| Senior Engineering Technician | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| Senior Fiscal Office Specialist | 0 | 1 | 1 | 1 | 0 | 1 | 1 |
| Senior Management Analyst | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| Senior Office Specialist | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Senior Public Works Inspector | 3 | 3 | 3 | 3 | 0 | 0 | 0 |
| Senior Secretary | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| Signal System Engineer I/II | 1 | 1 | 1 | 1 | 0 | 2 | 2 |
| Storm Water Compliance Inspector I/II | 0 | 0 | 2 | 2 | 0 | 0 | 0 |
| Survey Technician I/II | 3 | 3 | 3 | 3 | 0 | 1 | 1 |
| Traffic Devices Technician | 3 | 3 | 3 | 3 | 0 | 4 | 4 |
| Traffic Devices Technician Supervisor | 1 | 1 | 1 | 1 | 0 | 1 | 1 |
| Transit Coordinator | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| Transportation Engineer w/Cert | 1 | 1 | 1 | 1 | 0 | 1 | 1 |
| ***Total Permanent FTE's*** | **84** | **93** | **88** | **88** | **0** | **51** | **51** |

*In fiscal year 2005 the Engineering Department was merged with the General Services Department; in fiscal year 2006 Engineering was reestablished as a department.

# ENGINEERING

## MISSION STATEMENT • GOALS • OBJECTIVES AND MEASURES

**MISSION STATEMENT: Provide the City of Chula Vista with high quality physical infrastructure and public facilities, through the design, construction, and oversight of street, storm drain and wastewater system programs, and through management of the Chula Vista Transit public transit system contract services, so that the City can function and remain economically strong and residents can live and work in a safe and viable community.**

**GOAL: Provide high quality, efficient and cost-effective professional services to the public and other departments as required.**

**Objective:** *Respond to requests for service promptly*.

1. Meet regularly with developers to discuss public works issues on proposed and ongoing land development projects.
2. Review tentative maps and provide comments to the Planning and Building Department within 30 days 100% of the time.
3. Review building permit applications within 2 days of receipt.

**GOAL: Design, construct, and repair City-owned infrastructure including streets and appurtenant facilities, sidewalks, curbs and gutters.**

**Objective:** *Enhance traffic safety by providing for safe movement of users of the circulation system by maintaining surface quality and through the application of traffic control devices, street lighting, traffic signs, and other means.*

1. Conduct a nighttime survey every six months to check the street lighting and illuminated street signs.
2. Correct 100% of burned out traffic signal lamps and signal malfunctions within 2 hours of notification.

**Objective:** *Determine whether the City's traffic thresholds are being met and report the findings to the Growth Management Oversight Committee annually.*

**GOAL: Manage and maintain the City's wastewater and storm drain systems and work closely with other sewer agencies regarding wastewater treatment and transportation.**

**Objective:** *Monitor the capacity and condition of the City's sewer system and prepare recommendations for construction of new wastewater systems and for necessary rehabilitation and repair work.*